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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,080	10/31/2001	Kevin S. Stein	4470-00613	3540
26753	7590	12/11/2003	EXAMINER	
ANDRUS, SCEALES, STARKE & SAWALL, LLP 100 EAST WISCONSIN AVENUE, SUITE 1100 MILWAUKEE, WI 53202			KILKENNY, TODD J	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/002,080	STEIN ET AL.	
	Examiner	Art Unit	
	Todd J. Kilkenny	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 07 November 2003.

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-11 and 13 is/are pending in the application.

 4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-6, 10, 11 and 13 is/are rejected.

7) ☒ Claim(s) 7-9 is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 31 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

1. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Marschke (US 6,602,375; newly cited).

Referring to Figure 1, Marschke teach a single facer as described in the preamble of claim 1, including a heated fluted bonding roll (11) and a generator roll (17). Marschke also disclose a soft contact roll (19) located immediately downstream of the generator roll (17), and suggest said contact roll acts to press the single face web against the bonding roll (11) with a light and uniform force distributed across the full width of the web. One of ordinary skill in the art would have readily appreciated said teaching to provide a light and uniform force across the single face would act to spread the adhesive between the flute tips and the liner (Col. 3, lines 31 – 67).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marschke (US 6,602,375; newly cited) in view of Barny et al (US 5,614,048; newly cited).

As to independent claim 10, Marschke suggests a single facer comprising a heated fluted bonding roll (11) on which a medium web (13) is corrugated, a glue applicator (15) that applies a starch based adhesive and a generator roll (17) that brings a liner web (16) into contact with the glued flute tips of the corrugated medium web. Marschke further discloses a contact roll (19) positioned closely adjacent and immediately downstream of the generator roll and pressing the contact roll against the single face web with a light and uniform force distributed across the width of the web to assist in forming the initial bond between the medium web (13) and liner web (16). Again, one of ordinary skill in the art would readily appreciate said light and uniform force disclosed by Marschke would act to spread the adhesive between the flute tips and the liner. Marschke however, does not positively disclose mounting the contact roll for movement radially with respect the bonding roll.

Barney et al teach a process for making a sheet of single face corrugated cardboard, wherein Barney et al in an advantageous fashion, suggest means for adjusting the pressure of contact between the liner on the flutes of the corrugated sheet (Col. 4, lines 16 – 19).

In view of Barney et al suggesting it is advantageous to provide adjustment means to control the contact pressure between the liner and corrugated sheet immediately downstream of their introduction, it would have been obvious to one of ordinary skill in the art at the time of the invention to mount the contact roll (19) of Marschke for radial movement with respect to bonding roll (11) so as to control the contact pressure applied to the liner web in assisting the initial bond between the liner web and corrugated web.

As to claim 11, in teaching the advantageous low pressure contact bonding between the liner web and corrugated web, Barny et al suggests applying a pressure between 0 and 3 kg/cm, which encompasses applicant's claimed 5 lb_f/in.

As to claim 2, again having been motivated by Barny et al to provide adjustment means to control the contact pressure between the line web and corrugated web, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a support mechanism to vary the position of the contact roll with respect to the bonding roll.

4. Claims 3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marschke (US 6,602,375; newly cited) in view of Barny et al (US 5,614,048; newly cited) as applied to claims 1 and 2 above, and further in view of Isowa (GB 2,308,392).

The references as combined with respect to claims 1 and 2 fail to provide details directed towards the construction of the contact roll.

Isowa teaches a single-faced corrugated sheet making machine that includes a second pressure roll (38) mounted downstream of the line of initial tangent contact of the liner web and acts to press the liner web against the corrugating roll (14). The pressure roll, which aids in bonding the liner web to the corrugated web is disclosed as being constructed to be movable in order to approach the corrugating roll (14), wherein the pressure roll (36) is mounted so as to be independently movable to approach and separate from the corrugating roll by an eccentric mechanism (40) wherein the pressure roll includes a rotating axis (applicant's "center shaft") inserted into a through hole of a

lace (42; applicant's "outer shell") that is rotatably pivoted at the moving frame (38) via bearing (44). It appears Isowa further discloses the use of gears and a motor (e.g. an actuator) to work through the lace to cause the pressure roll to eccentrically move (Page 11, line 10 – Page 12, line 3).

As to claims 3, 5, it would have been obvious to one of ordinary skill in the art at time of the invention to construct the moveable contact roll of Marschke so as to comprise a center shaft connected to and end support mechanism and an outer shell rotatably supported thereon by a plurality of bearings, as such appears to be a known construction of moveable pressure rolls in the single facer art, as evidenced by Isowa and only the expected results would be achieved.

As to claim 6, in teaching to render the corrugating roll (12) moveable in relationship to the bonding roll (11) by means of an actuator (26), Marschke suggests said actuator may comprise pneumatic cylinders. It therefore would have been obvious to one of ordinary skill in the art at the time of the invention to alternatively employ a pneumatic cylinder as the actuator as opposed to gears and motors as suggested in exemplary fashion by Isowa and one of ordinary skill in the art again would readily appreciate that only the expected results would be achieved.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marschke (US 6,602,375; newly cited) in view of Barny et al (US 5,614,048; newly cited) and Isowa (GB 2,308,392) as applied to claim 3 above, and further in view of Araki et al (US 6,476,151).

The references as combined against claims 1 – 3 fail to disclose a rubber outer cover on the contact roll.

However, as disclosed by Araki et al pressure rolls having an outer coating material comprising an elastic layer of silicone rubber, fluorine-containing rubber, urethane rubber or EPDM offer not only flexibility, heat resistance and abrasion resistance but also nonsticking property and oil resistance (see abstract).

One of ordinary skill in the art would have readily appreciated a rubber coated roll offering such improved properties would have been pertinent to a variety of lamination processes, including facing a corrugated web, and therefore such would have been obvious to one of ordinary skill in the art at the time of the invention to employ as the second pressure roll of Isowa so as to achieve a pressure roll not only having flexibility, heat resistance and abrasion resistance but also nonsticking property and oil resistance.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marschke (US 6,602,375) in view of Barny et al (US 5,614,048) as applied to claim 10 above, and further in view of Araki et al (US 6,476,151).

The references as combined against claim 10 fail to disclose a rubber-like material coating for the contact roll.

However, as disclosed by Araki et al pressure rolls having an outer coating material comprising an elastic layer of silicone rubber, fluorine-containing rubber,

urethane rubber of EPDM offer not only flexibility, heat resistance and abrasion resistance but also nonsticking property and oil resistance (see abstract).

One of ordinary skill in the art would have readily appreciated a rubber coated roll offering such improved properties would have been pertinent to a variety of lamination processes, including facing a corrugated web, and therefore such would have been obvious to one of ordinary skill in the art at the time of the invention to employ as the second pressure roll of Isowa so as to achieve a pressure roll not only having flexibility, heat resistance and abrasion resistance but also nonsticking property and oil resistance.

Allowable Subject Matter

7. Claims 7 – 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to suggest or otherwise render obvious a contact roll comprising a dead shaft and outer shell as defined in claim 3, including the construction requirements required by claim 7. Claims 8 and 9 being dependent from claim 7 are further found allowable.

Response to Arguments

8. Applicant's arguments with respect to claims 1 and 10 have been considered but are moot in view of the new ground(s) of rejection.

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The newly cited reference to Marschke is now applied and anticipates a single facer apparatus comprising a contact roll located immediately downstream a generator roll and which lightly press the single face web against the bonding roll to enhance the glue bond between a medium web and a liner web. The teaching of Marschke further renders obvious a method for enhancing the bond the glue bond between the medium web and liner web in a single facer apparatus as presented in the rejections above.

Conclusion

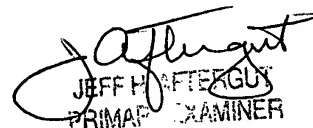
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Todd J. Kilkenny whose telephone number is (703) 305-6386. The examiner can normally be reached on Mon - Fri (9 - 5), or if attempting to contact after December 18, 2003 (571) 272-1219.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

TJK

TJK


JEFF H. AFTERGUT
PRIMAR EXAMINER
DEC 15 2003